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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/987,460	11/14/2001	Takashi Yamane	349932/00	6998

21254 7590 04/04/2005

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EXAMINER	
PHAN, HANH	
ART UNIT	PAPER NUMBER
2633	

DATE MAILED: 04/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/987,460	YAMANE, TAKASHI	
	Examiner	Art Unit	
	Hanh Phan	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 November 2001*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,5,6,9-12,15-21 and 24-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,5,6,9-12,15-21 and 24-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/19/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is responsive to the Amendment filed on 01/04/2005.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 2, 5, 6, 9-12, 15-21 and 24-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nogiwa (US Patent No. 6,091,526) in view of Kuo et al (US Patent No. 6,369,923).

Regarding claims 1, 5, 11, 20, 29, 30, 32 and 33, referring to Figures 1 and 2, Nogiwa discloses a collective detection system for wavelength fluctuations for use in a wavelength division multiplexing optical communication system, said collective detection system comprising:

optical filtering means (i.e., Fabry-Perot etalon resonator 5, Figs. 1 and 2, col. 3, lines 46-59) having a plurality of wavelength pass bands for transmitting wavelength division multiplexed transmission lights comprising a plurality of signal lights 9i.e., optical frequencies f1, f2,..., fn, Fig. 1) having undergone modulation with mutually different frequencies (i.e., frequencies $\nu 1$, $\nu 2$, ..., νn are received from oscillators 101, 201,... onto the drive current, Fig. 1, col. 3, lines 24-34) each said modulation in said mutually different frequencies respectively having a center modulation frequency, each

wavelength pass band in said optical filtering means having a shorter-wavelength stop band and a longer-wavelength stop band, and one of said shorter-wavelength stop band and longer-wavelength stop band of each said wavelength pass band coincides with a respective one of the center modulation frequencies (col. 3, lines 24-67 and col. 4, lines 1-32);

means (i.e., light receiver 6, Fig. 1) for collectively receiving and photoelectrically converting the lights transmitted by said optical filtering means (i.e., Fabry-Perot etalon resonator 5, Fig. 1, col. 3, lines 59-62);

first band pass filtering means (i.e., first band pass filters 401, 501, 601... Fig. 1) each respectively having as a pass band the modulation frequency of each of the photo-electrically converted electrical signals (col. 4, lines 1-13);

means (i.e., dividers 403, 503, 603... and CPU 8, Fig. 1) for detecting an output signal of the pass band of each of the band pass filtering means and detecting any fluctuation in each of the wavelengths of wavelength division multiplexed transmission lights contain (col. 4, lines 1-32).

Nogiwa differs from claims 1, 5, 11, 20, 29, 30, 32 and 33 in that he fails to specifically teach detecting an output level of the pass band of each of the band pass filtering means and detecting any fluctuation in each of the wavelengths of wavelength division multiplexed transmission lights contain. However, Kuo in US Patent No. 6,369,923 teaches detecting an output level of the pass band of each of the band pass filtering means and detecting any fluctuation in each of the wavelengths of wavelength division multiplexed transmission lights contain (Figs. 2 and 10, col. 8, lines 59-67 and

col. 9, lines 1-9). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the detecting an output level of the pass band of each of the band pass filtering means and detecting any fluctuation in each of the wavelengths of wavelength division multiplexed transmission lights contain as taught by Kuo in the system of Nogiwa. One of ordinary skill in the art would have been motivated to do this since Kuo suggests in column 8, lines 59-67 and col. 9, lines 1-9 that using such the detecting an output level of the pass band of each of the band pass filtering means and detecting any fluctuation in each of the wavelengths of wavelength division multiplexed transmission lights contain have advantage of allowing the operating wavelengths are moved back to the desired channel wavelength. This operation has the advantage of being faster, as well as requiring simpler signal processing.

Regarding claims 2, 6, 12, 21 and 31, the combination of Nogiwa and Kuo teaches branching a part of the wavelength division multiplexed transmission lights, photoelectrically converting the branched lights and causing the photoelectrically converted electrical signals to be transmitted by second band pass filters (i.e., second band pass filters 402, 502, 602..., Fig. 1 of Nogiwa) having the same characteristics as the first band pass filters (i.e., first band pass filters 401, 501, 601..., Fig. 1 of Nogiwa) and dividing before detecting an output level of the band pass of each of the first band pass filters, an output level of the pass bands of the first band pass filters by output levels of the pass bands of the respectively matching ones of the second band pass

filters (col. 4 of Nogiwa, lines 1-32 and Figs. 2 and 10 of Kuo, col. 8, lines 59-67 and col. 9, lines 1-9).

Regarding claims 9, 15 and 24, the combination of Nogiwa and Kuo teaches the band pass filtering means consists of a plurality of band pass filters arranged in parallel (Fig. 1 of Nogiwa).

Regarding claims 10, 16 and 25, the combination of Nogiwa and Kuo teaches a means for digitally converting the output signals of the photoelectric conversion means into digital signals and a signal processing means having a digital filtering function (Fig. 1 of Nogiwa and Fig. 2 of Kuo).

Regarding claims 17-19 and 26-28, the combination of Nogiwa and Kuo teaches the optical filtering means comprises arrayed waveguide grating or fiber spectral elements or Fabry-Perot etalon type spectral elements (as indicated in Fig. 1, Nogiwa teaches the optical filtering means comprises Fabry-Perot etalon resonator 5, col. 3, lines 46-59).

4. Claims 1, 2, 5, 6, 9-12, 15-21 and 24-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nogiwa (US Patent No. 6,091,526) in view of Berger et al (US Patent No. 6,421,151).

Regarding claims 1, 5, 11, 20, 29, 30, 32 and 33, referring to Figures 1 and 2, Nogiwa discloses a collective detection system for wavelength fluctuations for use in a wavelength division multiplexing optical communication system, said collective detection system comprising:

optical filtering means (i.e., Fabry-Perot etalon resonator 5, Figs. 1 and 2, col. 3, lines 46-59) having a plurality of wavelength pass bands for transmitting wavelength division multiplexed transmission lights comprising a plurality of signal lights 9i.e., optical frequencies f1, f2,..., fn, Fig. 1) having undergone modulation with mutually different frequencies (i.e., frequencies $\nu 1$, $\nu 2$, ..., νn are received from oscillators 101, 201,... onto the drive current, Fig. 1, col. 3, lines 24-34) each said modulation in said mutually different frequencies respectively having a center modulation frequency, each wavelength pass band in said optical filtering means having a shorter-wavelength stop band and a longer-wavelength stop band, and one of said shorter-wavelength stop band and longer-wavelength stop band of each said wavelength pass band coincides with a respective one of the center modulation frequencies (col. 3, lines 24-67 and col. 4, lines 1-32);

means (i.e., light receiver 6, Fig. 1) for collectively receiving and photoelectrically converting the lights transmitted by said optical filtering means (i.e., Fabry-Perot etalon resonator 5, Fig. 1, col. 3, lines 59-62);

first band pass filtering means (i.e., first band pass filters 401, 501, 601... Fig. 1) each respectively having as a pass band the modulation frequency of each of the photo-electrically converted electrical signals (col. 4, lines 1-13);

means (i.e., dividers 403, 503, 603... and CPU 8, Fig. 1) for detecting an output signal of the pass band of each of the band pass filtering means and detecting any fluctuation in each of the wavelengths of wavelength division multiplexed transmission lights contain (col. 4, lines 1-32).

Nogiwa differs from claims 1, 5, 11, 20, 29, 30, 32 and 33 in that he fails to specifically teach detecting an output level of the pass band of each of the band pass filtering means and detecting any fluctuation in each of the wavelengths of wavelength division multiplexed transmission lights contain. However, Berger in US Patent No. 6,421,151 teaches detecting an output level of the pass band of each of the band pass filtering means and detecting any fluctuation in each of the wavelengths of wavelength division multiplexed transmission lights contain (Figs. 1 and 2, col. 3, lines 3-67 and col. 4, lines 1-64). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the detecting an output level of the pass band of each of the band pass filtering means and detecting any fluctuation in each of the wavelengths of wavelength division multiplexed transmission lights contain as taught by Berger in the system of Nogiwa. One of ordinary skill in the art would have been motivated to do this since Berger suggests in column 3, lines 3-67 and col. 4, lines 1-64 that using such the detecting an output level of the pass band of each of the band pass filtering means and detecting any fluctuation in each of the wavelengths of wavelength division multiplexed transmission lights contain have advantage of allowing the operating wavelengths are moved back to the desired channel wavelength. This operation has the advantage of being faster, as well as requiring simpler signal processing.

Regarding claims 2, 6, 12, 21 and 31, the combination of Nogiwa and Berger teaches branching a part of the wavelength division multiplexed transmission lights, photoelectrically converting the branched lights and causing the photoelectrically

converted electrical signals to be transmitted by second band pass filters (i.e., second band pass filters 402, 502, 602..., Fig. 1 of Nogiwa) having the same characteristics as the first band pass filters (i.e., first band pass filters 401, 501, 601..., Fig. 1 of Nogiwa) and dividing before detecting an output level of the band pass of each of the first band pass filters, an output level of the pass bands of the first band pass filters by output levels of the pass bands of the respectively matching ones of the second band pass filters (col. 4 of Nogiwa, lines 1-32 and Figs. 1 and 2 of Berger).

Regarding claims 9, 15 and 24, the combination of Nogiwa and Berger teaches the band pass filtering means consists of a plurality of band pass filters arranged in parallel (Fig. 1 of Nogiwa).

Regarding claims 10, 16 and 25, the combination of Nogiwa and Berger teaches a means for digitally converting the output signals of the photoelectric conversion means into digital signals and a signal processing means having a digital filtering function (Fig. 1 of Nogiwa).

Regarding claims 17-19 and 26-28, the combination of Nogiwa and Berger teaches the optical filtering means comprises arrayed waveguide grating or fiber spectral elements or Fabry-Perot etalon type spectral elements (as indicated in Fig. 1, Nogiwa teaches the optical filtering means comprises Fabry-Perot etalon resonator 5, col. 3, lines 46-59).

Response to Arguments

5. Applicant's arguments with respect to claims 1, 2, 5, 6, 9-12, 15-21 and 24-33 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

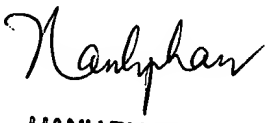
6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Phan whose telephone number is (571)272-3035.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.



HANH PHAN
PRIMARY EXAMINER